(54) Title: SYSTEM AND METHOD FOR CONTROLLING PERSONAL TELEPHONE NUMBER DIALING LISTS AND DIALING CAPABILITIES

(54) Titre: SYSTEME ET PROCEDE PERMETTANT DE GERER DES LISTES D'APPELS DE NUMEROS TELEPHONIQUES PERSONNELS AINSI QUE LES CAPACITES D'APPEL

(57) Abstract

A system and method are disclosed for providing personal dialing profiles for users of wireless devices. The users enter telephone numbers into a profile list and specify any desired special handling or routing operations for future calls to each number. The personal profile lists allow users to dial only an abbreviated portion of the telephone number and then the wireless network adds any other required digits, such as country, area or local exchange codes. The system also provides specified routing, such as using a preselected service provider when a call to a particular number will be a long distance call. The personal profile information is stored on a service control point (SCP) or a database that is accessible to the wireless telephone network. Users add telephone numbers and configure profile information using a personal computer, which is linked to the wireless network or SCP via a data network, such as the Internet.

(57) Abrégé

Cette invention concerne un système et un procédé permettant d'offrir des profils d'appel personnels pour des utilisateurs de dispositifs sans fils. Les utilisateurs entrent les numéros de téléphone dans une liste de profils et indiquent toutes les opérations de transfert ou de routage spéciales souhaitées pour les futurs appels de chaque numéro. Les listes de profils personnels permettent aux utilisateurs de ne composer qu'une partie réduite du numéro de téléphone, le réseau sans fil ajoutant ensuite les autres chiffres requis, tels que des codes de pays, de communications locales ou interurbaines. Ce système permet également d'obtenir un routage spécifique tel que l'utilisation d'un fournisseur de services présélectionné lorsque l'appel d'un numéro particulier est un appel longue distance. Les informations de profils personnels sont stockées dans un point de commande de services (SCP) ou une base de données qui est accessible au réseau téléphonique sans fil. Les utilisateurs ajoutent des numéros de téléphone et configurent les informations de profils à l'aide d'un ordinateur personnel qui est connecté au réseau sans fil ou au SCP par un réseau de données tel que l'Internet.
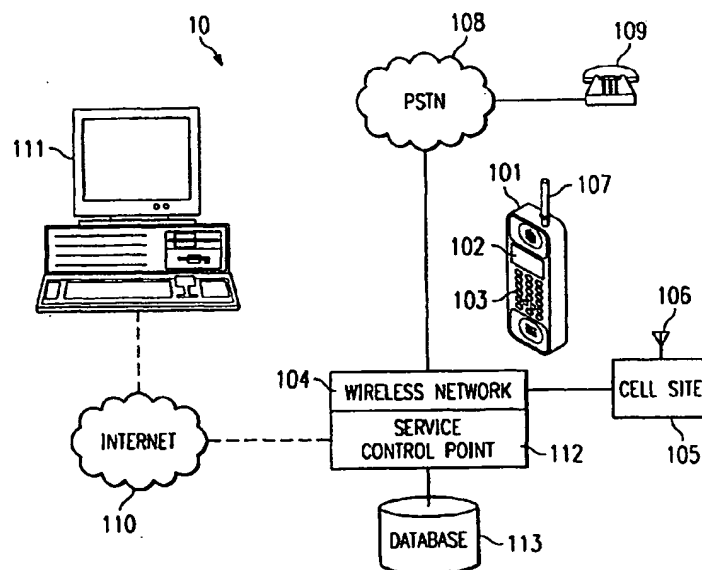
(54) Title: SYSTEM AND METHOD FOR CONTROLLING PERSONAL TELEPHONE NUMBER DIALING LISTS AND DIALING CAPABILITIES

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A system and method are disclosed for providing personal dialing profiles for users of wireless devices. The users enter telephone numbers into a profile list and specify any desired special handling or routing operations for future calls to each number. The personal profile lists allow users to dial only an abbreviated portion of the telephone number and then the wireless network adds any other required digits, such as country, area or local exchange codes. The system also provides specified routing, such as using a preselected service provider when a call to a particular number will be a long distance call. The personal profile information is stored on a service control point (SCP) or a database that is accessible to the wireless telephone network. Users add telephone numbers and configure profile information using a personal computer, which is linked to the wireless network or SCP via a data network, such as the Internet.

Description

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SYSTEM AND METHOD FOR CONTROLLING PERSONAL TELEPHONE NUMBER DIALING LISTS AND DIALING CAPABILITIES

TECHNICAL FIELD OF THE INVENTION

The present invention relates to wireless communications systems and, more particularly, to dialing services and a system and method for users of wireless devices to configure personal dialing profiles.

BACKGROUND OF THE INVENTION

Dialing a telephone number can be complicated due to the need to enter additional routing codes and service provider access or billing codes. Many cities have been assigned new area codes so that calls within one metropolitan area often require a caller to dial ten digits instead of seven. Also, service providers offering special long distance or calling card services typically require callers to dial a special routing number in order to access a particular telecommunications application. As a result, callers must memorize or keep a list of many telephone numbers or special routing codes.

This situation is especially difficult for mobile telephone or wireless device users who may not be able to easily look up a telephone number, area code, routing code or service access number when they are driving or away from their home or office. Most mobile telephones or wireless devices provide the user with at least a few memory locations capable of storing frequently called telephone numbers. However, depending on where the call is originated, the stored number may not include all of the required digits. For example, if the user travels away from their home location, in order to place a call to a number within the home area code, he or she may need to add the area code or a long distance access code to the called party's seven digit telephone number.

Some devices allow callers to maintain a speed call list in which a one or two digit code corresponds to a particular stored telephone number. However, managing such calling lists can be difficult because the user must keep track of which speed dial codes correspond to which called party. Furthermore, speed dial lists do not account for changes in the caller's location, so the user must use multiple memory locations for each stored number if the user wants to be able to use the speed dial function under varying conditions. For example, one location would hold the seven digit telephone number, another location would hold the telephone number plus area code for calls outside the area, and yet another location may hold a long distance access code in addition to the ten digit telephone number.

Adding numbers to frequently dialed lists can be cumbersome. Users often forget the correct programming sequence to enter new numbers. Also, inputting alphanumeric characters for names or other identifiers using the twelve button numeric keypad often requires the user to make multiple key presses for each character. As a result, users often fail to update their

stored calling lists. Many mobile telephone and wireless device users lose interest in the capabilities offered by service providers due to difficulty of use.

SUMMARY OF THE INVENTION

These and other objects, features and advantages of the invention are embodied in the present invention which allows callers to dial an abbreviation of the number for the called destination rather than requiring the user to enter the full destination telephone number and any required routing and/or billing codes for each call. As long as the called party's telephone number is in the caller's list of personal numbers, as described below, the claimed invention identifies the correct destination telephone number from the dialed abbreviation. The system then modifies the telephone number as required to complete the call. The destination telephone number is modified based upon the caller and called party's locations and any special routing instructions specified by the caller.

The Personal Dialing Service described herein is more flexible than the prior art private branch exchange (PBX) closed user group dialing services that have been used by business customers. Typically, PBX systems allow users to dial the last four digits of a destination telephone number if the called party is also served by the same PBX. Instead of requiring a full seven or ten digit telephone number, the prior art PBX systems allow callers to drop the NPA-NXX portions of the dialed number. PBX systems provide abbreviated dialing by assuming that any dialed number is directed to another station served by the PBX. In order to access numbers outside of the PBX, callers must enter a special code, such as a "9," before dialing a non-PBX number. The special code alerts the PBX to route the number to a switch external from the PBX. Failure to dial the special code before dialing the outside number usually causes an error condition because the PBX will not recognize the NPA-NXX digits as a local extension.

The present invention expands the prior art wireline PBX capabilities and makes abbreviated dialing available to individual wireless customers. Additionally, the Personal Dialing Service described herein provides additional capabilities to the customers, such as automated routing and billing functionality.

It is a feature of the present invention to provide a system which enables a wireless subscriber with the capability to establish and maintain a list of frequently dialed numbers. Preferably, the user can access the system via an Internet based interface.

It is another feature of the invention to allow subscribers to add additional telephone numbers to the list of frequently called numbers by entering a special dialing sequence when

dialing the number. For example, the user may enter a special key, such as the pound (#) or star (*) key, before and/or after the number to be added to the dialing list (e.g. #999-555-1234#).

5   It is a further feature to provide a system in which subscribers can dial an abbreviated version of the desired called number (e.g. 1234#) regardless of where the subscriber is currently located. Assuming that the subscriber's wireless service provider had a roaming agreement in the roamed market, the subscriber merely dials the abbreviated number and the personal dialing system appends or prepends any required digits to complete the call. The additional digits may include country codes, area codes, local exchange codes, or other routing

10   and billing information.

The foregoing has outlined rather broadly the features and technical advantages of the present invention in order that the detailed description of the invention that follows may be better understood. Additional features and advantages of the invention will be described hereinafter which form the subject of the claims of the invention. It should be appreciated by

15   those skilled in the art that the conception and the specific embodiment disclosed may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes of the present invention. It should also be realized by those skilled in the art that such equivalent constructions do not depart from the spirit and scope of the invention as set forth in the appended claims.

BRIEF DESCRIPTION OF THE DRAWING

For a more complete understanding of the present invention, and the advantages thereof, reference is now made to the following descriptions taken in conjunction with the accompanying drawings, in which:

FIGURE 1 is a block diagram of a system incorporating the present invention;

FIGURE 2 is a flowchart illustrating the steps followed in one embodiment of the present invention; and

FIGURE 3 is a flowchart illustrating the steps followed in another embodiment of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIGURE 1 is a block diagram of system 10, which illustrates the components of the present invention. A subscriber using a wireless device 101, such as a wireless telephone, communicates with wireless network 104. Wireless device 104 has keypad 103, which allows the user to enter telephone numbers or other information, and display 102, which can be used to display information, such as menu items. Wireless device 101 communicates with wireless network 104 through cell site 105 via antennas 106 and 107. Typically, a wireless network has a number of cell sites 105, each serving a specific geographic area. Wireless network 104 can determine the general location of device 101 by identifying which cell site 105 is communicating with device 101. The accuracy with which network 104 determines the user's location depends upon the size of the area served by cell site 105 and the capability of antenna 106 to determine which sector the subscriber is in. However, for the present invention, in order to determine the required routing information, all that is typically required to be known is the area code and service provider of cell site 105.

A user initiates a call by entering a telephone number on keypad 103. The call is routed to the destination telephone number through cell site 105 and wireless network 104. If the called destination is another wireless device, then wireless network 104 may complete the call via cell site 105, or some other cell site (not shown) which is part of wireless network 104. On the other hand, if the destination number is part of a wireline network, or served by a different wireless network (not shown), then wireless network 104 routes the call to public switched telephone network (PSTN) 108 and on to the appropriate switch or end office that serves called party 109.

In the example illustrated in FIGURE 1, called destination 109 is assigned a specific telephone number using the well known NPA-NXX-XXXX format. In order to initiate a call between device 101 and called party 109, the user may have to enter all or part of the called party's NPA-NXX-XXXX number and may also have to enter additional routing or service access codes. The actual dialed number depends upon the location of caller 101 with respect to called party 109. If the caller 101 and called party 109 are within the same area code, then only the NXX-XXXX portion of the telephone number may need to be dialed. However, the entire number may need to be dialed if caller 101 is roaming outside of a home wireless service area having a different area code than the called party 109.

If caller 101 desires to use optional telecommunications services or special call routing, then additional numbers may have to be dialed before the NPA-NXX-XXXX number. For example, if caller 101 wants to use a particular long distance service provider of a certain call, then he/she must first dial routing codes, such as a "10XXX" or "1-800" number used by the long distance service provider. Caller 101 may also need to enter access or billing codes for the selected long distance service, such as an account number or personal identification number (PIN), in order to use the service.

In the present invention, as long as the destination number is contained within a list of preselected personal numbers, caller 101 need only dial an abbreviation of the desired number in order to initiate a call. Upon dialing the abbreviated number (e.g., last four digits), wireless network 104 determines, based on where the subscriber is currently located, the required NPA-NXX-XXXX dialing sequence and completes the call to called party 109. For example, if a wireless subscriber has a home location in Seattle, and roams to wireless system 104 in New York, network 104 knows where the caller is by identifying a particular cell 105 that is in communication with caller 101. Therefore, when caller 101 dials an abbreviated destination number, such as NXX-XXXX or just XXXX, network 104, recognizing that caller 101 is in New York, completes the call by adding the necessary digits to generate the correct dialing sequence.

The present invention can also be used to complete international calls. When the abbreviated number of called party 109 is dialed, network 104, knowing who the subscriber or caller is, who he/she is trying to call, and where he/she is currently located, adds the required country, area, and routing codes to complete the call. The personal profile system can be configured so that the user can select which portion of the destination telephone number is to be used for abbreviated dialing. Alternatively, the user can select to have a default setting, such as using the last four digits of each stored number, or the user could assign special codes, such as "*01", to certain frequently dialed numbers. SCP 112 or database 113 would then correlate the selected abbreviation to the desired called telephone number.

Users have the capability to identify particular services that are to be used for certain types of calls. In one embodiment, the user can select particular long distance service providers that are to be used for calls to certain numbers. This feature allows users to configure the personal dialing program to add routing information for calls to selected areas or

at certain times. For example, wireless network 104 first determines what information must be added to complete the call, such as country or area codes, then network determines whether the call should routed to a preselected service provider, such as a particular long distance service provider. The user can configure the system so that certain criteria, such as time of day or calling location, will result in special routing for a call.

In a preferred embodiment, the personal dialing system is coupled to a public, globally accessible computer network, such as Internet 110. Users access and configure their personal profile information using personal computer (PC) 111. Personal profile information is stored at service control point (SCP) 112 or database 113. SCP 112 may be part of wireless network 14, as shown, or, alternatively, it 112 may be part of another network that can be accessed by network 104 in order to retrieve the personal profile information. Using PC 111, subscribers can add or edit telephone numbers and select specific telecommunications services for each number. Computer 111 may use a proprietary software program that is specifically developed to communicate with SCP 112 and to configure the personal dialing profiles. Alternatively, users may configure their personal profiles by accessing a public interface or gateway, such as a web site accessed using Internet 110. A publicly accessible configuration interface would provide the use of special access codes or PINs for security purposes. A system and method for configuring the features and capabilities of telecommunications devices is disclosed in application serial number 08/996,524, entitled SYSTEM AND METHOD FOR CONTROLLING PERSONAL INFORMATION AND INFORMATION DELIVERY TO AND FROM A TELECOMMUNICATIONS DEVICE, filed December 23, 1997, the disclosure of which is hereby incorporated by reference herein.

PC 111 presents the user with a graphical user interface (GUI) display which allows the user to configure the personal profile information by adding, deleting, and editing names, telephone numbers, long distance calling card numbers, etc. The personal profile system coordinates with the service administration management system of wireless network 104 to maintain the data in SCP 112.

Subscribers can also automatically add numbers to their personal profile calling list when they dial a telephone number on wireless device 101. In one embodiment, this is accomplished by entering a certain pre-established code, such as by pressing the pound (#) or star (*) key, in conjunction with the dialed number (e.g. #999-555-1234#). The number will

then be automatically stored in the user's personal profile on SCP 112. In another embodiment, all new numbers that are dialed are stored in SCP 112 or database 113, and when the user next accesses the personal profile configuration program on PC 111, he/she is prompted to add the new numbers to the user's personal profile list.

The user can also add the telephone number for incoming callers to the personal profile list using Automatic Number Identification (ANI) or Caller Identification (CID) information. For each incoming call, network 104 could send the ANI or CID information to SCP 112, where it would be temporarily stored until the user next accessed the configuration program. Then the user would be prompted to add the new number to the user's profile. Also, a name or other identification for the newly entered number could be of the could be added automatically via the ANI or CID capability. Alternatively, the subscriber could add the name and other information the next time he or she was logged on to the personal profile management site using PC 111. Once the number is added using wireless device 101, the subscriber can dial an abbreviation of the number, for example "1234", and the call will be completed by wireless network 14, which will add the required digits, such as by prepending "999-555" to the dialed "1234" number.

Another method for adding additional names and numbers would be through a normal customer care center contact where a wireless service provider's customer representative could receive the information verbally from the customer and then add it to the user's profile through the customer representative's system.

Although the personal dialing profile system described herein is part of a wireless network, it will be understood that the invention is adaptable to use with a wireline telephone network. SCP 112 and database 113 can be part of a wireline network or can be accessed through PSTN 108 and network 104. Service providers can allow users to configure personal dialing numbers for their home or business telephones. The wireline dialing profiles can be configured in the same manner as described above, using a PC or an Internet web site. Telephone numbers can also be added as described above by requiring the caller to dial special codes, such as pound key, as part of the number to be added to the personal dialing profile. Alternatively, all of the numbers dialed can be temporarily added for later selection. Incoming callers' telephone numbers can also be added using ANI or CID information.

Like the wireless system, such a wireline system would permit callers to dial abbreviated destination telephone numbers without requiring the caller to specially configure the telephone's own memory or speed dialing functions. Either a wireless or wireline personal dialing application could be configured as a software application that runs on a telecommunications network.

Flowchart 200 in FIGURE 2 shows the steps that are followed in one illustrative example of a system incorporating the present invention. In step 201, users store a plurality of destination telephone number records in dialing profiles. Each user may have one or more dialing profiles and each profile may correspond to one or more telecommunications devices. The user initiates a call in step 202 by entering information, such as a destination telephone number or a corresponding abbreviated code, on a telecommunications device. The telecommunications network detects when the device has initiated a call in step 203 and, in step 204, determines whether the information corresponds to a stored destination telephone record.

In step 205, the network uses information stored in the destination telephone number record to complete the call to the destination device. The call routing between the caller and destination device may depend upon factors such as time of day or caller location. In step 206, the network determines the user's current location, such as by identifying a particular cell or sector that is in communication with the user. The user location information is used in step 207 to route the call to the destination device. For example, the network may select special routing codes or access codes to be appended to the destination telephone number based upon the user's current location.

Flowchart 300 in FIGURE 3 illustrates the operation of another illustrative example of a system employing the present invention. In step 301, destination telephone number records are input into a dialing profile database. The database may be part of a telecommunications network, such as an SCP. The database is used by the telecommunications network to route calls between the users' telecommunication devices and called destinations. Users access the database in step 302 to configure the parameters of the telephone number records. The users may access the database via a menu displayed on the telecommunications device, or via a computer connection, such as an Internet web site. The users may select certain calling features that are to be used to route calls to particular destination telephone numbers. The routing features may be used for each call or they may be used depending upon the caller's

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location or the time of day. A user may also configure a destination telephone number record so that an abbreviated number or a code can be entered in order to initiate a call to the called destination. When a call is initiated in step 303, the system correlates the abbreviated number to a particular record. Then, in step 304, the system initiates communications between the user and the called destination. In step 305, the system determines whether there is a preselected call route, such as a particular long distance carrier, that should be used for the communication. The preferred routing is then used by the telecommunications network to complete the call to the called destination.

Although the present invention and its advantages have been described in detail, it should be understood that various changes, substitutions and alterations can be made herein without departing from the spirit and scope of the invention as defined by the appended claims.

Claims

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WHAT IS CLAIMED IS:

1.   A system for dialing telephone numbers, comprising:

means for storing a plurality of dialing profiles, each of said profiles corresponding to one or more telecommunications devices, said profiles comprising call completion information for a plurality of destination telephone numbers;

5   means for detecting when a call has been initiated by one of said telecommunications devices;

means for correlating information input to said telecommunications device to call completion information in a corresponding one of said dialing profiles; and

means for completing said initiated call using said correlated call completed

10   information.

2.   The system of claim 1 wherein said storing means comprises a service control point (SCP) in a telecommunications network.

3.   The system of claim 1 wherein said storing means comprises a database coupled to a telecommunication network.

4.   The system of claim 1 wherein said dialing profiles comprise:

a list of abbreviated dialing numbers corresponding to said destination telephone numbers, wherein said destination telephone numbers include routing data for each of said abbreviated dialing numbers.

5.   The system of claim 1 wherein said call completion information comprises routing data for said destination telephone numbers.

6.   The system of claim 1 wherein said call completion information comprises billing data for said destination telephone numbers.

7.   The system of claim 1 wherein said telecommunication device is a wireless telephone.

8.   The system of claim 1 wherein said telecommunications device is a wireline telephone.

9.   The system of claim 1 further comprising:

means for configuring said dialing profiles.

10.   The system of claim 9 wherein said configuring means comprises:

means for accessing said storing means via a computer network.

11.   The system of claim 9 wherein said configuring means comprises:

means for adding said destination telephone numbers via said telecommunications device.

12.   The system of claim 11 wherein said destination telephone numbers are updated automatically each time a user enters a new destination telephone number on said telecommunications device.

13.   A method for providing personal dialing services comprising the steps of:

storing a plurality of dialing profiles, each of said dialing profiles corresponding to one or more telecommunications devices and comprising a plurality of destination telephone number records;

detecting when one of said telecommunications devices initiates a call;

determining whether information entered to initiate said call is associated with one of said destination telephone number records in a corresponding dialing profile; and

completing said call using information stored in said destination telephone number record.

14.   The method of claim 13 further comprising the step of:

allowing users to configure said stored dialing profiles.

15   The method of claim 14 wherein said users access a stored dialing profile database via a computer network.

16.   The method of claim 14 wherein said users specify routing information for said dialing profiles.

17.   The method of claim 14 wherein said users specify abbreviated dialing codes for said destination telephone records.

18.   The method of claim 13 wherein said dialing profiles are stored on a service control point of a telecommunications network.

19.   The method of claim 13 wherein said completing step comprises the step of:

adding routing codes to an abbreviated telephone number entered by a user.

20.   The method of claim 19 wherein said routing codes are selected from the group consisting of:

country codes;

area codes; and

5   local exchange codes.

21.   The method of claim 19 wherein specific routing codes are added based upon a
user's location and a called destination's location.

22.   The method of claim 21 further comprising the step of:

determining said user's location by identifying a particular wireless network cell site
that is in communication with said telecommunications device.

23.   The method of claim 19 wherein specific routing codes are added based upon a
user's home service provider and a current roaming service provider.

24.   A method for using personal dialing services comprising the steps of:

entering an abbreviated destination telephone number on a telecommunications device,
wherein said abbreviated telephone number corresponds to a destination telephone number in a
personal profile;

5   transmitting said abbreviated destination telephone number to a database that is coupled
to a telecommunications network, said database having stored therein one or more personal
profiles; and

completing a call under control of said telecommunications network from said
telecommunications device in accordance with said personal profile destination telephone
10   number.

25.   The method of claim 24 further comprising the steps of:

adding destination telephone numbers to said personal profile; and

configuring said personal profile.

26.   The method of claim 25 wherein a user adds said destination telephone numbers by entering a preselected code when dialing a telephone number.

27.   The method of claim 25 wherein dialed telephone numbers are automatically added to said personal profile.

28.   The method of claim 25 wherein users configure said personal profile via a personal computer that is coupled to said telecommunication database via a computer network.

29.   The method of claim 25 wherein users add telephone numbers to said personal profile and configure said personal profile via said telecommunications device.

30.   A method of configuring a personal dialing list comprising the steps of:

entering destination telephone numbers into a dialing profile database; and

accessing said database to configure parameters associated with said destination telephone numbers.

31.   The method of claim 30 wherein said destination telephone numbers are entered via a telecommunications device.

32.   The method of claim 30 wherein said dialing profile database is coupled to a telecommunications network.

33.   The method of claim 32 wherein said database is a service control point in a telecommunications network.

34.   The method of claim 30 wherein users access said database via a personal
computer coupled to said database via a computer network.

35.   The method of claim 34 wherein said users configure said parameters via an
Internet web site accessed via said personal computer.

36.   The method of claim 30 wherein said users configure said parameters via menus
displayed on a wireless telecommunications device.

37.   The method of claim 30 wherein said parameters to be configured comprise an
abbreviated number associated with each of said destination telephone numbers.

38.   The method of claim 30 wherein said parameters to be configured comprise data
required to route a call to a desired destination via a selected service provider.

39.   A computer program product having a computer readable medium with
computer program logic recorded thereon for use in a system for providing personal dialing
services in a telecommunications network, the computer program product comprising:

    means for correlating a dialed abbreviated number to a destination telephone number
record, said record comprising a complete destination telephone number and preselected
routing information for said destination telephone number; and

    means for initiating communications between a calling telecommunications device and a
destination telecommunications device corresponding to said destination telephone number.

40.   The computer program product of claim 39 further comprising:

    means for storing one or more dialing profiles, wherein said profiles comprising a
plurality of destination telephone number records; and

    means for configuring said stored dialing profiles.

41.   The computer program product of claim 39 further comprising:

means for routing a call from a telecommunications device to a called destination over a desired telecommunications route using information stored in said destination telephone number record.
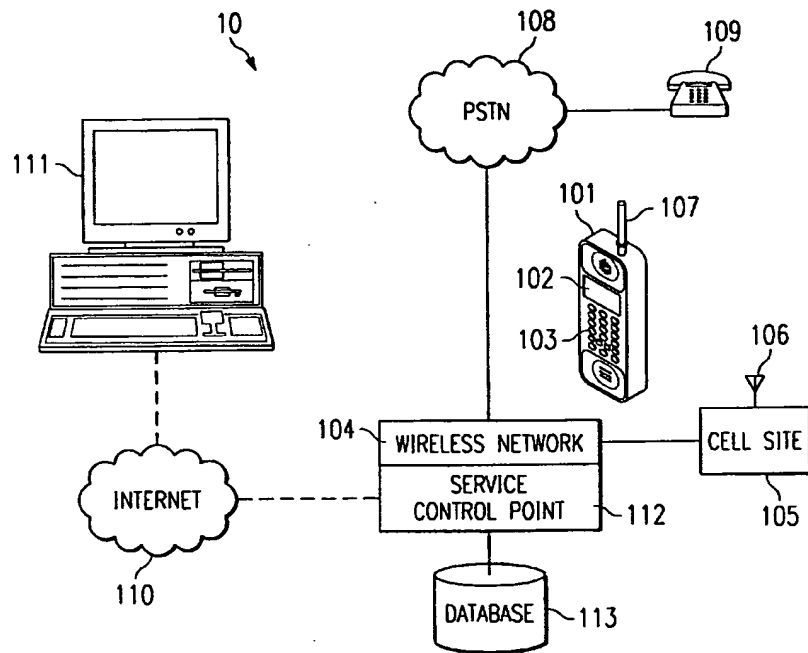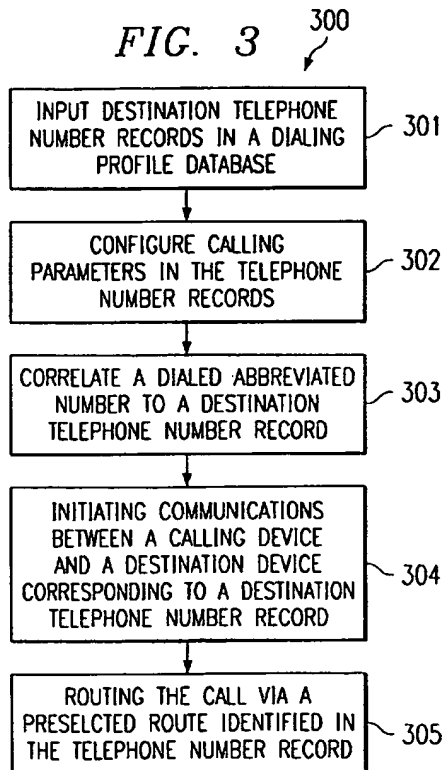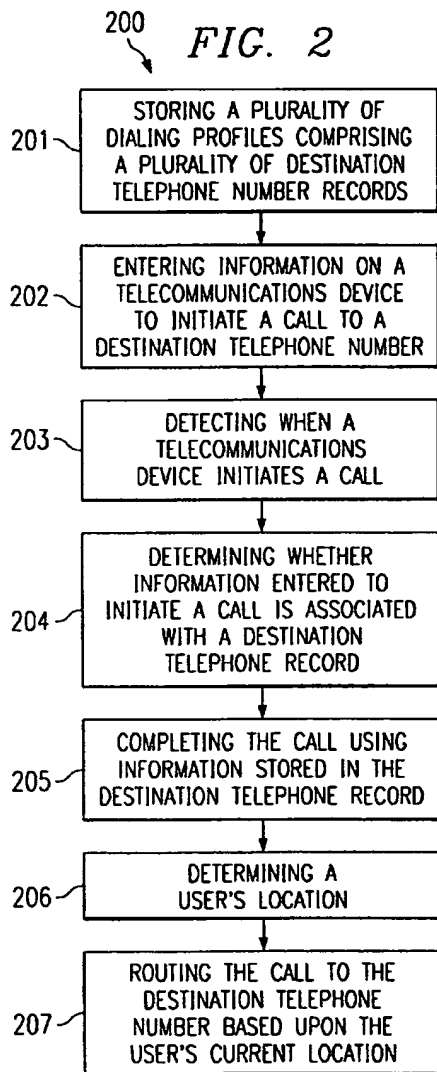
FIG. 1

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200   *FIG. 2*

201 — STORING A PLURALITY OF DIALING PROFILES COMPRISING A PLURALITY OF DESTINATION TELEPHONE NUMBER RECORDS

202 — ENTERING INFORMATION ON A TELECOMMUNICATIONS DEVICE TO INITIATE A CALL TO A DESTINATION TELEPHONE NUMBER

203 — DETECTING WHEN A TELECOMMUNICATIONS DEVICE INITIATES A CALL

204 — DETERMINING WHETHER INFORMATION ENTERED TO INITIATE A CALL IS ASSOCIATED WITH A DESTINATION TELEPHONE RECORD

205 — COMPLETING THE CALL USING INFORMATION STORED IN THE DESTINATION TELEPHONE RECORD

206 — DETERMINING A USER'S LOCATION

207 — ROUTING THE CALL TO THE DESTINATION TELEPHONE NUMBER BASED UPON THE USER'S CURRENT LOCATION

FIG. 3 300

301 — INPUT DESTINATION TELEPHONE NUMBER RECORDS IN A DIALING PROFILE DATABASE

302 — CONFIGURE CALLING PARAMETERS IN THE TELEPHONE NUMBER RECORDS

303 — CORRELATE A DIALED ABBREVIATED NUMBER TO A DESTINATION TELEPHONE NUMBER RECORD

304 — INITIATING COMMUNICATIONS BETWEEN A CALLING DEVICE AND A DESTINATION DEVICE CORRESPONDING TO A DESTINATION TELEPHONE NUMBER RECORD

305 — ROUTING THE CALL VIA A PRESELCTED ROUTE IDENTIFIED IN THE TELEPHONE NUMBER RECORD

Inte......nal Application No

PCT/US 99/21080

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7   H04M1/274   H04M3/44

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7   H04M   H04Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 33439 A (DEUTSCHE TELEKOM MOBIL (DE)) 12 September 1997 (1997-09-12)	1-3,6-9, 11,13, 14,17, 18, 24-27, 29-33,37
A	page 2, line 16 –page 10, line 34; figures 1,2	4,5,16, 19,20, 38-41

-/-

[X] Further documents are listed in the continuation of box C.   [X] Patent family members are listed in annex.

Date of the actual completion of the international search	Date of mailing of the international search report
15 February 2000	22/02/2000

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Delangue, P

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Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
X	DE 196 32 354 C (PLUS MOBILFUNK GMBH E) 19 February 1998 (1998-02-19)	1-3,7,9, 11-14, 17,18, 24,25, 30-33, 36,37
A	column 1, line 40 -column 5, line 3; figures 1-6	4,5,16, 19,20, 39-41
X	WO 98 00987 A (MCI COMMUNICATIONS CORP) 8 January 1998 (1998-01-08) page 3, line 1 - line 24	1,3-5,7, 13,19-24
A	page 4, line 17 -page 12, line 19; figures 1-7	9,14, 30-32, 37,39,40
X	US 5 161 184 A (BURNETT ET AL) 3 November 1992 (1992-11-03)	1,3-5,8, 9,13,14, 16, 30-32, 39-41
	column 4, line 25 -column 7, line 30; figure 1 column 13, line 9 -column 24, line 27; figures 3-10	
X	US 5 758 286 A (LEPPAENEN) 26 May 1998 (1998-05-26)	1,3,6,7, 13,24
A	column 2, line 1 -column 5, line 25; figures 1-4	4,5,16, 19,20
A	US 5 504 804 A (JOERGEN ET AL) 2 April 1996 (1996-04-02)	1-5,7, 13,16, 19-24
	column 8, line 55 -column 13, line 67; figures 4—9	
A	WO 97 47121 A (AT & T CORP) 11 December 1997 (1997-12-11)	1-3,7,9, 11,13, 14,18, 24,25, 30-33, 39-41
	page 7, line 25 -page 11, line 20; figures 1-3	
A	WO 97 41654 A (ERICSSON) 6 November 1997 (1997-11-06)	1,9,13, 15,24, 28,30, 34,35
	page 6, line 18 -page 8, line 31; figures 1,2	

2

INTERNATIONAL SEARCH REPORT

information on patent family members

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 9733439	A	12-09-1997	DE	19608419 A	11-09-1997
			CN	1212814 A	31-03-1999
			CZ	9802851 A	13-01-1999
			EP	0885533 A	23-12-1998
			PL	328692 A	15-02-1999
DE 19632354	C	19-02-1998	NONE		
WO 9800987	A	08-01-1998	AU	3584597 A	21-01-1998
			CA	2259271 A	08-01-1998
			EP	0950325 A	20-10-1999
US 5161184	A	03-11-1992	NONE		
US 5758286	A	26-05-1998	FI	933744 A	27-02-1994
			FI	942842 A,B	16-12-1995
			AU	675970 B	27-02-1997
			AU	4960693 A	15-03-1994
			AU	7462594 A	21-03-1995
			CA	2143319 A	03-03-1994
			CN	1131492 A	18-09-1996
			EP	0671110 A	13-09-1995
			EP	0715792 A	12-06-1995
			WO	9405126 A	03-03-1994
			WO	9506381 A	02-03-1995
			HU	71653 A,B	29-01-1996
			HU	73132 A	28-06-1996
			JP	8502391 T	12-03-1996
			JP	9500506 T	14-01-1997
			LT	96014 A,B	25-10-1996
			LV	11409 A	20-06-1996
			LV	11409 B	20-10-1996
			NO	950715 A	31-03-1995
			NO	960727 A	23-02-1996
			PL	307680 A	12-06-1995
			US	5594777 A	14-01-1997
US 5504804	A	02-04-1996	AU	682924 B	23-10-1997
			AU	1547995 A	08-08-1995
			CA	2157662 A	27-07-1995
			CN	1124083 A	05-06-1996
			EP	0719490 A	03-07-1996
			FI	954392 A	18-09-1995
			JP	8511150 T	19-11-1996
			NO	953612 A	20-11-1995
			NZ	278985 A	24-11-1997
			WO	9520299 A	27-07-1995
			SG	48268 A	17-04-1998
			ZA	9500433 A	24-11-1995
WO 9747121	A	11-12-1997	US	5903845 A	11-05-1999
			BR	9702280 A	20-07-1999
			CA	2228139 A	11-12-1997
			EP	0852870 A	15-07-1998
			JP	10512433 T	24-11-1998
			NO	980460 A	03-02-1998
WO 9741654	A	06-11-1997	AU	2375097 A	19-11-1997

Form PCT/ISA/210 (patent family annex) (July 1992)

	Inter. .nal Application No
	PCT/US 99/21080

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9741654 A		EP 0864211 A	16-09-1998